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A GLOBAL RIGHT OF WATER*

Water is vital to life, and access to it is of paramount importance to political communities as well as to individuals. Today, concerns about the availability of clean water do not only arise at the level of nation-states and regional relations but have a global dimension too.[1] Global circumstances present two kinds of challenge: the amount and quality of freshwater available in aggregate is under such pressure from a range of threats (Vörösmarty et al. 2010) that limits on its supply can be considered one of the 'planetary boundaries' humanity is now at risk of transgressing (Rockström et al. 2009); meanwhile the distribution of rights of access to the available water are so unequally distributed that many people's capacities to meet their basic needs are already compromised.[2] An ecological problem of persistent overload (Wackernagel et al. 2002) is thus compounded by a social problem of radical inequality (Nagel 1977; Pogge 2002). In this, the critical situation with regard to freshwater is, like climate change, part of an overarching global problem affecting resources and environmental quality more generally. That problem presents humanity with a dual challenge: if human rights are to be respected and basic justice is to be served, there needs to be contraction in the global demand on planetary assets at the same time as such redistribution as would secure at least the basic necessities for all. I have referred to this as *the circumstantial imperative of our age* (Hayward 2014)

The dual challenge relates to the entirety of the 'ecological space' of our planet (Hayward 2016), in all its complexity. Its constituent systems can be disaggregated for purposes of assessing a 'safe operating space' for our economic interactions with the natural world. Among the most crucial planetary systems that require dedicated attention and management, a well-known one is the atmosphere's capacity to absorb carbon emissions without provoking dangerous climate change; another is the capacity to maintain supplies of sufficient freshwater to meet universal human need. In certain respects, normative considerations applying to water are akin to those relating to climate change, and there is much to be learned in discussing the former from the more extensive debates that have already been devoted to the latter. Of course, though, since a shortage of water availability

[1] Not only is consumption globally increasing, but interdependence of consumption patterns also affects the situation: 'about one-fifth of the global WF in the period 1996–2005 was not meant for domestic consumption but for export. The relatively large volume of international virtual water flows and the associated external water dependencies strengthen the argument to put the issue of water scarcity in a global context' (Hoekstra and Mekonnen, 2012: p.3236)

[2] 'At least 780 million people do not have access to clean drinking water, some 2.5 billion people lack access to safe sanitation systems, and 2-5 million people – mainly children – die as a result of preventable water-related diseases every year'. (Gleick et al. 2014: p.1)

also has very specific and immediate effects on individual human beings at the level of their day-to-day survival, it merits attention as a distinct problem. Furthermore, there is also the important difference between water use and carbon emissions that water is a direct and inherent necessity for human life while carbon emissions (except those from our bodily respiration) are not. This means that whereas a sensible strategy for tackling climate change might aim to eliminate carbon emissions, everyone will always need water as long as they live.

In framing debate about appropriate normative principles regarding access to water, something accordingly to ask – given the widespread acceptance of a human rights framework for global agreements – is whether these should, or can already be taken to, refer to a human right to water. This is something I have argued against accepting in relation to carbon emissions (Hayward 2007). By contrast, a moral case for a human right to water, I shall suggest, appears all but unanswerable. Questions remain, however, about how a right to water could or should be given institutional form. Importantly, for a right to be respected in reality there must be a determination of who has an obligation to do what in order that its claims can materially be fulfilled. On this question, I consider the account recently offered by Mathias Risse (2014). He suggests they can be fulfilled in much the way that established social and economic rights can. Yet he also recognizes that, unlike social and economic goods, water is not produced by human effort but is, rather, a naturally occurring resource. There is a tension between those insights, I suggest, that is grasped by appreciating how a right of water can also be classed as an environmental right. A distinctive feature of environmental rights is that their fulfilment is normally dependent on ecological restraint of some kind. In the case of water, a right of universal human enjoyment of a sufficient minimum is contingent on constraining aggregate human demand on the resource.

These kinds of rights were not theorised until quite recently. On the inherited understandings of modern political theory, rights relating to natural resources are seen as pre-existing the rights that attain social and political institutionalisation. They are rights, as Risse puts it, to participate in 'common ownership of the Earth'. On that account, their possible corollary – to accept duties to be good custodians of the Earth – is highly attenuated in virtue of the presumption that most of the value humans can yield from resources is due to *development* of what nature provides. The idea that the resource base itself must be curated is not a real focus of concern. The circumstances that were taken to warrant that framing of the matter, however, have been historically superseded. Under the circumstances we face today, dealing with that concern is an integral part of any adequate response to the dual global challenge. Accordingly, to meet the challenge, I shall argue, the world's institutions need to be guided by principles developed within a theoretical framing that can accommodate full,

and integrated, recognition of the ecological and socio-economic imperatives to be met in order to fulfil human rights. Within that framing it is possible to comprehend the distinctiveness of different planetary resource kinds – like water, and like carbon absorption capacities – without assuming that the availability of one is independent of the others, or, indeed, that human economic activity is somehow independent of any of them. The world that is our common heritage is then seen in relation not only to human rights but also human responsibilities.

1

Is there a human right to water? Treating this as a moral question, the answer would seem to be fairly straightforward. If one accepts the framing of vital moral imperatives in the language of human rights, then one only has to understand the vital importance of access to water in order see sufficient reason for it to be accounted a human right. The moral demand, put simply, would be of a right of access for everyone to such water as is required for the possibility of a healthy life. This would be a basic right, in the sense of Henry Shue (1980), because non-enjoyment of its substance would preclude enjoyment of any other rights whatsoever.[3] If there is any reasonable argument against this general moral proposition – as opposed to criticism of the human rights framings in general[4] – I am not aware of it.

Certainly, the moral purpose of invoking a human right might be interpreted in different ways. Some have invoked the right to water to resist privatization of water supplies. Thus Bolivian protesters issued the Cochabamba Declaration according to which 'water is a fundamental human right and a public trust to be guarded by all levels of government, therefore, it should not be commodified, privatized or traded for commercial purposes.' (In Salzman 2005: p.2) A contrasting view, though, was articulated in the Dublin Statement, issued by governments represented at the 1992 International Conference on Water and the Environment declaring that 'water has an economic value in all its competing uses and should be recognized as an economic good.' (Salzman 2005: p.2n15) But if those two views are at odds, the spirit of the first can be maintained without necessarily refuting the second. For one might affirm that, quite generally, a distinctive moral purpose of invoking a human right is to trump any mere right of property in the event of a conflict between them, while still allowing private sector involvement on condition that it is entirely constrained to respect human rights principles. Where people have little reason to trust in the will or power of their government to

[3] See also the UN Committee on Economic, Social and Cultural Rights, (2002), Art. I.1: 'The human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realization of other human rights.'

[4] For instance, Karen Bakker aims to 'elucidate the limitations of the human right to water as a conceptual counterpoint to privatization, and as an activist strategy.' (Bakker 2007: p.430)

enforce such constraints, though, the Cochabamba position would seem morally and politically justifiable.

The unresolved questions about the status of a human right to water, then, are not so much about its moral justification or purpose. Something less clear is its status in international law. Mathias Risse (2014) has highlighted debate about questions such as whether international law generates such a right, what precisely it would mean, and what difference it could make. This is still relatively uncharted territory, since only recently have such questions become live ones in international fora. Water did not feature in authoritative statements on human rights until, in 2002, the United Nations' Committee on Social, Economic, and Cultural Rights referred, in its General Comment 15, to a human right to water that 'entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses.' (Committee on Economic, Social and Cultural Rights, 2002: Art. I.1) Subsequently, in 2010, the UN General Assembly recognized rights to water and sanitation; and in the same year the Human Rights Council adopted a resolution acknowledging those rights to be implied by the right to an adequate standard of living.[5] These statements do not create binding international law, but affirmation of a human right to water can be taken to imply that such a right should be recognized in international agreements and institutionally enforced, through suitably stringent obligations on states and other parties. Acceptance of this implication, however, is a less straightforward matter than affirming the moral desirability of the goal, since there is the additional requirement of establishing who more exactly has what obligations to meet it. How a general right of water might be interpreted and cashed out through implementation into more specific legal rights relating to water is a complex matter (Thielbörger 2014). For the practices that would have to be brought under governance in order to secure access to water, in the myriad ways humans need and use it, are vast in scale and varied in kind. Even the complexities involved in securing water for hydration, hygiene and irrigation do not exhaust the role of water in our lives, including its literal permeation of our environmental conditions and its role throughout the economy (Hoekstra et al. 2011).

The uncertain legal status of a human right of access to water is in significant respects similar to that of a right to an adequate environment (Boyle 2012). In fact, there are clear parallels – as well as overlap in terms of scope – between a right to water and a right to an environment adequate for health and well-being. Some potential challenges concerning the status of these recently thematised rights are similar to those already familiarly advanced in

[5] For a more detailed account of the development of the idea see Murthy (2013).

relation to the broad category of social and economic rights.[6] In the early years of the United Nations human rights system, a practical and ideological difference was marked – including by the drafting of two distinct covenants – between the classical civil and political rights, that typically have fundamental status in liberal state constitutions, and the more social democratic agenda represented by social and economic rights. Those earlier established rights tend to be regarded as having fundamental and peremptory status, being in principle capable of fulfilment by means of 'negative' constraints on government's powers to interfere with the lives and interests of individual citizens. The social and economic rights of more recent social democratic provenance, by contrast, in requiring the positive provision of substantive goods or services, tend to be regarded as policy objectives appropriate to incremental realisation. Risse takes it as self-evident that a human right to water would count among the economic and social rights, rather than fundamental civil and political rights (Risse 2014: p.181). A reason for assuming this would be recognition of the UN's affirmation, as mentioned, that it is implied by the right to an adequate standard of living, itself a social and economic right; a more direct reason is that securing access to water can involve providing extensive social and economic investment in infrastructure for its delivery. On this basis, Risse sees a problem to address, but it is one in response to which some arguments familiar from the literature can be rehearsed to show that 'there is nothing about the nature of rights that excludes the possibility of economic and social rights' (Risse 2014: p.185). Certainly, the drawing of a rigid distinction between the two sets of rights is practically controversial, as flagged by 1977 the UN General Assembly affirmation that all human rights and fundamental freedoms are *indivisible* and *interdependent*;[7] and philosophical arguments in support of the distinction (e.g. Cranston 1967) have also been challenged, to my mind convincingly, for example, by Shue (1980). Thus we indeed find that environmental rights in general, and a right of water in particular, include elements of both the earlier generations of rights. As noted, the right of water can be derived from 'second generation' rights like that to an adequate standard of living, and it could readily be derived from others such as the right of health. Yet it could also be derived from or include 'first generation' rights. For instance, a person's access to freshwater can be - and all too often is – the direct result of liberty-infringing conduct, and a right to water may often best be fulfilled by enforcing negative duties on illegitimate drawers or contaminators of needed water supplies. The right could even be derived from the 'first generation' right to *life*.

[6] These challenges are further discussed in Hayward (2005).

[7] 1977 the UN General Assembly affirmed that all human rights and fundamental freedoms 'are indivisible and interdependent: equal attention and urgent consideration should be given to the implementation, protection and promotion of both civil and political, and economic, social and cultural rights.' (UN General Assembly, Resolution 32/130 (1(a) and (e), December 16, 1977).

Environmental rights in general, and rights in relation to water specifically, also include elements that defy either of the first two categorisations, for they refer not only to personal freedoms or to social provision but as well to natural circumstances that can elude social control. Water is not a social good like healthcare, education, shelter and food that can be produced by labour: there can be feasible obligations to produce and distribute those goods as required. Water, as a resource in sufficient supply to sustain a human settlement, cannot be produced, but can only be found; and if it cannot be found anywhere suitably accessible, there is nothing anyone can feasibly be obliged to do within the scope of social and economic duties. What would have to happen would involve geographically shifting the community (e.g. move somewhere more fertile) or transforming natural geographical features (e.g. divert a river). Either of these more radical shifts is liable to have knock-on effects for other communities whose own access to water (and other territorial resources) is thereby affected. In fact, transboundary conflicts over water have become increasingly familiar in recent years as populations and their resource demands augment.

Thus, in virtue of its environmental dimension, just implementation of a right of water is subject to further challenges than are social and economic rights. A particular challenge is that the duties involved in making them good can be about not only ensuring adequate fair access to goods but also constraining aggregate demand on resources. They can thus entail obligations to reduce usage, and this, it should be emphasized, cannot necessarily be achieved by means of compensating for overuse. In this respect environmental rights differ significantly from rights relating to economic goods that are, for the most part, sufficiently fungible that a lack of one can be compensated by the substitution of another, and all can be commensurated through market pricing. On this basis, say a rich person takes all of one good, they can compensate the community, if required to, by rendering the price of a bundle of substitute goods. This is a model familiar, for instance, from schemes for carbon offsetting and trading in carbon credits: rich polluters continue polluting, but they make payments that may compensate poorer countries for the opportunity cost of refraining from polluting themselves. However, as noted at the outset, freshwater is not substitutable like carbon is: a vital need for water cannot be satisfied by any amount of other goods. Another reason that the challenge of practicability is greater for environmental rights is that they relate to goods that are not in the gift of humans or societies to supply. The goods of civil and political rights are entirely a matter of human conduct while social and economic rights relate in a quite direct way to human concerns. Thus social and economic rights are formulated to apply within the established framework of nation-states, and they are thus at least related to institutional arrangements that in good measure already exist. Environmental rights, by contrast, have little institutional recognition to date, and their relevance to humans is less

direct, their being invoked to deal with environmental threats emerging in many complex, circuitous and unpredictable ways.

A potentially strong line of criticism of environmental rights is thus that whereas social and economic goods are at least quite well understood as material objectives and are in principle in the power of governments to deliver, environmental goods, by contrast, being external to our social, economic and political systems, cannot even be unequivocally defined, let alone clearly linked to a workable system of human rights and duties (see e.g. May and Daly 2014: p.26). These kinds of complication can affect the right of water because although our needs for it might seem to be well defined, the question of what *claims* might feasibly and legitimately be advanced on the basis of those needs is not so simple. Morally speaking, and in principle, it might seem straightforward to say that all have a mutual right and responsibility to allow each other enough water and that societies should be organized so as to respect those rights and responsibilities. However, that proposition assumes as a background condition that enough water is there, publicly available. Yet a right to water has only come to be proposed in the first place because water is not securely available to all. It differs from the object of social and economic rights in that it does not refer to a claim to a share of social product: for if the water is not there, nobody can be expected to provide it.

What claim, then, is to be made against whom and on what basis? If there is a shortage of water in a geographical area under the jurisdiction of a particular state, and if even with political will that state is unable to secure the right to all its citizens, then it is not clear that any feasible claims can be made against it. The question, in fact, becomes one of ethical responsibilities that transcend state borders, among people who may not share a form of political association.

Risse points out that political philosophers have categorized water as part of what we encounter in the world that should be regarded as part of humanity's common worldly heritage. He captures this idea by speaking of humanity's 'common ownership' of the Earth. It is in virtue of this normative premise that each person can be attributed a basic right of access to water. A question is whether from that same normative premise we can also derive an account of the obligations that would make good the right in situations where it is insecure or unfulfilled. Risse's view is that we can since 'this original ownership status has strong implications for what individuals and groups can do with portions of three-dimensional space.' (p.187) On the basis of the 'collective ownership' assumption, he believes, 'there is a genuinely global responsibility for making sure everybody can enjoy access to water to which co-owners of the earth are entitled. The state system is acceptable only if it meets that responsibility.' (p.195)

This leaves the question, though, of how that collective responsibility might be disaggregated into more determinate obligations on particular states. A further question we shall also come to ask is why it is states particularly that have the obligations when it is so often market actors – corporations – that are materially using, occupying or commanding water resources quite outside the territory or jurisdiction of any particular state.

2

A question of justice, then, is who has duties to do what in order to assure a right of water is fulfilled for all. On Risse's account, '[w]ater-rich countries have a duty to make good on that human right if other countries are unable to do so for their citizens.'(p.182) While this proposition has some intuitive appeal, in assessing it we need to be sure what it means to speak of a 'water-rich' country. We also need to consider what making good on the right might entail. A consideration of these questions will lead us to ask why we should in fact confine the search for duty-bearers to countries.

The idea of a 'water-rich' country is not unequivocally simple. It could mean, for instance, a country whose territory has a great deal of fresh water – like a large lake in its midst – but little wealth of any other kind. That does seem to be the meaning Risse has in mind. Alternatively, it could mean a country with relatively little direct territorial access to fresh water but with such a wealthy economy that its full water footprint – i.e. the total amount of water it actually makes use of in one way or another (Hoekstra et al. 2011) – is far greater. A country fitting the first description, being endowed with water but not wealth, would somewhat misleadingly be called water-*rich*; a country fitting the second description would perhaps less confusingly be characterized as *economically* rich rather than as *water*-rich. At any rate, to assign international obligations of assistance – with its associated costs – to a poor country that just happens to have a lot of water within its territory would seem ethically questionable. This is a point that Risse seeks to accommodate by suggesting that a country that is 'water-rich' in this sense may only have such obligations if its territory also has an abundance of other natural assets. What should be taken into account, on his view, is 'the overall value of resources and spaces' (p.199), when this is calculated as the per-capita value of the three-dimensional territorial space that a country occupies. A problem with this suggestion, however, is that we cannot assume the sum of the value of the natural resources found on a territory prior to their development is any guide to the economic wealth or poverty of the state whose territory it is (Hayward 2006). For this reason, it is not necessarily less arbitrary to assign duties on any basis of territorial endowment, even where this includes more than water alone. So while we do need to know where water is physically to come

from, we should not assume that duties to bear the costs of ensuring its supply, where needed, necessarily fall on those with territorial rights over locations with water resources. In fact, we should not assume that the water must come from an unused territorial source at all, rather than from a reduction in others' demands on the available sources.

We should thus also reflect on what to assume is involved in 'making good' human rights deficits with regard to water. Actual patterns of water use around the world are affected by a variety of factors. As Hoekstra and Mekonnen (2012) helpfully summarise, water used can be of three distinct kinds – surface or ground water, rainwater, and polluted water. While the uses of direct concern for human rights are in hydration and hygiene, a great deal of water is used in industrial production, and by far the largest proportion of global water use is in agriculture. Water embedded in agricultural products can be exported, and so a wealthy country that imports this 'virtual water' can have large 'external' footprint. Large amounts can also be used in poor countries, though, due to inefficient agricultural practices.[8] In view of this, what needs to be done to secure sufficient access to water resources to support human rights is likely to involve quite complex considerations about not just the material location of water but also about the political economy of its use.

To meet these points, I propose, we should adopt the alternative understanding of what it means to think of a country – or, indeed, any other entity for which a water footprint might be calculated – as availing of more than its fair share of the Earth's freshwater and thus as presumptively carrying the greater burden of obligation. If we grant the premise that no individual has a greater right to water than any other does, then we can allow a defeasible presumption that a just distribution can make reference to per capita water use. On this basis an entity with a larger water footprint per capita can be designated a presumptive over-user. Over-users may be under presumptive obligations to make do with less water. I speak here in terms only of what we might reasonably presume because my aim is not to argue for specific principles of just distribution. My purpose, rather, is to focus on what factors are the ones we should be considering as the subject matter to which such principles might apply.

My suggested perspective is very different from that adopted by Risse. He designates countries as 'over-users' when their demand for water exceeds their territorial supply,[9] and these are the countries that are then *owed assistance* by others; meanwhile, countries that 'under-use' their territorial supply are among those who have duties to assist. The rationale

[8] Some countries may have large per capita footprints because their agricultural use of water is inefficient. For instance, 'For Niger, the consumption of cereals per capita is 1.4 times the global average, but the WF of cereals per ton is six times the world average.' (Hoekstra and Mekonnen 2012: p.3234)]

[9] 'They over-use if the per-capita value of what they occupy is lower than the world average among states. … Over-users may decline further requests for immigration. They are doing enough in permitting a proportionate share of humanity to make a living.' (Risse 2014: p.197)

for assigning obligations to these under-users is that they have more water in their territory than they need, and thus have the ability to help. They would help, Risse envisages, either by diverting some of their territorial water where practicable or else by admitting migrants from over-used regions.

It will be seen, then, that the same normative principle – requiring help to come from those with the ability to provide it[10] – could be applied as well from my perspective as from Risse's, and yet it could pick out quite different bearers of the obligations in each case. The difference would turn on the accounting basis chosen – whether this is territorial endowment of a country or total footprint of water actually used within a country.

Adopting the perspective I have commended, we would identify as potential sources of water not only territorial reserves but also those amounts of water that are currently subtracted from territories. Industrial production, and especially agricultural production – which accounts for the vast majority of water consumption globally – use water extensively in the production of their goods. Many of these are exported and thus serve the interests of non-residents of those territories. The water thereby absorbed into the footprint of foreign businesses that could potentially be released may or may not be sufficient to supply the entire need – since demographic and climatic changes may also affect patterns of need – but there are several reasons for thinking it an avenue worth pursuing before recommending mass migration as a solution. In general, to prevent a problem, by removing its cause, is better than having to remedy its effects. When doing so means allowing people to stay in their homelands and preserve their accustomed livelihoods rather than have to make their way in foreign and not necessarily so hospitable parts, it also has more to commend it in terms of basic human values. Furthermore, it has a more appropriate incentive structure: for Risse's conception of under-use implicitly encourages a fuller use of available territorial resources while proposing nothing to address the excess use of water resources elsewhere in the global system. By not incentivizing reduction in consumption it leaves the basic problem still active. Not only is this materially counterproductive, it goes against the intuitive presumption many people share about the *ceteris paribus* moral fittingness of moral responsibility tracking causal responsibility. So while an ability to solve the problem may be necessary to take the steps justice requires, I would suggest it makes a morally relevant difference whether the ability itself arises out of practices that contribute causally to the problem or not.

[10] This is the principle often referred to as 'ability to pay' in the climate justice literature; it is the main alternative to the principle that obligations should track causal responsibility. The two can be combined in various ways, including through synthetic principles such as direct obligations to those benefited or advantaged. Similar principles might be invoked in the context of water, although the particular arguments favoring one or another might work somewhat differently. For an overview of the climate debates, see e.g. Gardiner (2004); Hayward (2012).

Risse is silent about the significance of causality for his normative argument. In fact, it could be difficult to attribute causal responsibility to countries for shortages elsewhere, since while a country's external water footprint might be measured, this only determines how much water has been transferred, not the causal mechanisms or agents of the transfer. When water consumption is embedded in the production process of imports, causal responsibility more evidently lies with the corporate actors involved, and they often act autonomously of state controls.

These considerations lead us to consider what, more exactly, are the actions required to secure human rights universally with respect to water. Hoekstra and Mekonnen recommend that water-scarce countries dependent on external water resources should develop foreign and trade policies that ensure a sustainable and secure import of water-intensive commodities that cannot be grown domestically (Hoekstra and Mekonnen 2012: p.3236). Governments more generally, they suggest, should strive to use water more sustainably both through increasing the efficiency of its use in production and aiming where possible to displace consumption of water-intensive commodities by commodities that require less water.

A basic policy objective for governments in general might thus be to constrain their countries' water footprint by imposing import controls on goods carrying a heavy load of 'virtual water'. It might even be argued that failure to do so could be regarded as complicity in causation of shortages elsewhere.

I anticipate, however, that this kind of argument might be seen as pitting a rather tenuous line of reasoning against the more established view that trade confers a net benefit for all concerned and that barriers to trade can undermine benefits for all, including for those who, trapped in poverty, may have inadequate access to water. The general idea that states should rein in corporate actors goes against the established liberal view that states depend on those entities to generate the wealth that their own good order and functioning depend on. That view would allow an assumption that the kinds of business activity that *inter alia* consume water resources are themselves important supports for human rights in a world where all our interactions with nature are mediated by social and technological infrastructure. So while we should take human rights seriously, we should recognize that protecting them is a complex matter that can include respecting norms of private property and business freedom.

The argument I would defend is that a warrant for the established view has today to be demonstrated rather than assumed. The premises of liberal political economic thought were established under circumstances quite different from those we now face. If securing the necessary ecological conditions for well-ordered societies to flourish into the future means

contracting the ecological demands made by human industry and trade, it would follow that the established view should no longer necessarily be taken as authoritative.

The case of water, in fact, provides a particularly pointed instance of the general challenge. A familiar line of response to the challenge in the general area of environmental policy and politics is to argue that business as usual can be made smarter, more ecological, so that it is possible to continue economic growth while at the same time saving the environment. Various versions of 'ecological modernisation' purport to show how in some way it is possible to 'decouple' economic growth from growth in ecological demands on the planet. This invariably involves some creativity in reconciling a dual accounting system, however, for at some point it has to be shown possible for a benefit of increased resource use to come at no increased cost of resource use, and this requires substitution of some kind. Thus, for example, as we noted earlier in relation to carbon emissions, obligations of polluters to reduce their emissions can be circumvented by allowing them to be 'offset' by putative emissions foregone by someone else. If we accept, *arguendo*, the possibility that the poor are genuinely thereby set on a low carbon development trajectory, it is because we know people could actually live without those emissions. With water it is different. There is no way a person in need of water could be compensated for going without water other than by ensuring that sufficient water is available to them. Some of it may be found contained in foodstuffs, and some of it may be used in the process of producing other material essentials, but what is at issue is always actual water, not 'water credits'.

A need for some restructuring of the economic demand for freshwater thus appears to be a corollary of a human right to water under the contemporary circumstances of radical inequality and recurrent ecological overshoot. This implies that the duties attendant on the human right to water may in fact be quite a wide set of rather significant duties to reconfigure some fundamental norms of international institutions.

3

The perspective commended here thus differs significantly from established liberal framings of human encounters with the natural world. According to the inherited assumptions that Risse accepts in framing his argument, the world that humans have common ownership of has various contents that can be appropriated on a labour-mixing basis; thereupon they become subject to private property norms and are no longer to be regarded as part of the world's natural endowment. So, for normative purposes, once anything natural is privately owned it ceases to be regarded as part of nature. A sharp distinction is thus drawn between what exists in nature independently, and what exists only as a result, of human intervention. Risse makes

clear that his own position incorporates this distinction into its conceptual structure:

> 'The considerations motivating Egalitarian Ownership speak to raw materials only, not to what human beings have *made* of them. The distinction between what "is just there" and what humans have shaped is blurred. But by and large, we understand well enough the idea of what exists without human interference.' (p.188)

Of course, regarding what 'we understand well enough' there is inevitably scope for divergent views, and it can depend on the purposes the understanding has to serve. We might understand how to distinguish a natural lake from a built reservoir, for instance, if we are interested in physical geography. However, if it is water as a 'raw material only' that we are interested in, then the natural and artificial reservoirs are indistinguishable. In fact, were a lake to be polluted, there would be a sense in which we could regard it as less natural.

Thinking of water more generally, it is a particularly elusive substance in relation to which to apply a distinction between naturally occurring and humanly produced. When, for instance, here in Scotland I cut open a watermelon grown in Italy, do I come upon water that is 'just there'? Transportation and farming were involved in getting it *there*, on my table, but a watermelon is the thing it is in virtue of being filled naturally with water. So if my interest is in the biology of melons, the water is just there where nature intended. If, however, my interest is in a wider study of hydrology, or ecology, or agricultural irrigation, or political economy, then the location and quality of the water appears as a result of many complex factors involving both natural processes and human interventions – of global reach and geologically long timescales. If the interest in water is that it provides for physical hydration, cleanliness and agriculture, then wherever the water is used for those purposes, it is always 'just there' insofar as it is a quantity of molecules that humans had no part in designing or creating – whether it is drawn from a pristine spring or just there on the plate under my melon.

What I am emphasizing here is that the lack of any single clear practical distinction between those features of the world that are 'just there' as opposed to 'humanly shaped' is not simply a matter of uncertainty as to where exactly a line might be drawn within a grey area. There are questions of fundamental conceptual perspective at issue. We can adopt a perspective from which all our activities in the world can be seen as involving ongoing original appropriation of 'what is just there' in nature (Hayward 2006), since even our most advanced technological creations only work because natural processes continue to function in and around them just as they did long before humans existed. Of literally anything in the world we can truthfully answer the question 'is it just there or has it been shaped by humans?' by saying it depends entirely on what aspects of the thing one has in mind. The molecules of

H_2O may be just there as they were before humans arrived on the planet, but that is not the sense in which water is a normative concern. Access to water has become a global problem because of the myriad ways in which it is subject to human interventions and how these have become increasingly complex in nature and extensive in reach. Water is a constituent of every configuration of ecological space that humans use, occupy or command, and so access to it is normatively controlled in complex ways. Access to water is thus also affected by many activities that are not primarily directed to using it for vital needs; and sometimes impacts on it are entirely incidental to the purpose of the activity. Access to available water can be effectively eliminated by activities that pollute it. Thus the idea that water is 'just there' has limited purchase on the reality that normative theory needs to grapple with today.

In short, the reason why we should be especially concerned about the 'rawness' of materials in a world already almost entirely shaped by humans is far from clear. The traditional reason was to provide a basis for allowing 'added value' to be reaped by the industrious, and to be secured to them through private property rights. This idea made some sense in relation to the sort of state of nature conceivable by 17th century philosophers: it reflected a view of the world as rich in unexploited regions where the 'externalities' of material economic practices really could be regarded as 'external' to the world that mattered to them. Today what matters, I would argue, is the state we leave the world in as we engage in our shaping activities and the way others – including those without opportunities to be express industriousness – are treated in the process. Thus if one wants to invoke state-of-nature reasoning today, one should take an appropriately updated view of the state of our relations in this hyper-developed, over-burdened biosphere.

The requisite framework of normative understanding for grasping the implications of a global right of water has to be suitably holistic in approach and global in scope to capture the challenge. That is not supplied by the framing inherited from earlier theories, even when updated as Risse proposes. He suggests that what is now at stake – as was not quite appreciated back then – 'is the sheer space in which our existence takes place.' (p.182) From my commended perspective, the problem is not that older theories neglected it, but that 'sheer space' is not what is at stake. What is at stake is access to space of certain *qualities* other than three-dimensionality. Risse acknowledges this by generally referring to *resources and* spaces, and yet, while cautioning against a focus simply on territorial *extension*, it remains *territorial spaces* that he thinks we should be interested in sharing, with principles of distributive justice applying to 'the value of a territory for human purposes' (p.197). Still, as he at one point notes, '[a] host of biophysical factors shape the value of a territory for human purposes' (p.197). To understand these factors, a merely physical account will not do. The biosphere is not appropriately seen simply as a physical space occupied only by those discrete

contiguous items that we happen to notice and attach value to. In the context of thinking about access to natural resources or environmental conditions, an appropriate conceptualization is of a kind we can think of as *ecological* space. This is because what we value in them has value to us in virtue of its ecological role in either endosomatic or exosomatic support of human life and well-being. Ecological space is distinguished from topological, geographical and territorial space in that it exists for organisms – and for organized technological societies too – in those locations where the ecological functionings drawn upon are found, rather than as a particular three-dimensional area (Hayward 2016).

Space in the ecological sense is certainly at stake today: science shows clearly that human impacts on the biosphere are already approaching several 'planetary boundaries' and risk reaching tipping points of dangerous irreversible environmental changes. Water is an important constituent of that space, and we 'may soon be approaching the boundaries for global freshwater use.' (Rockström et al. 2009: p.473) In thinking about how to contain aggregate demand for water and ensure adequate supply for the worst off, the appropriate conceptual and normative framing can be modelled on other approaches already pioneered for various aspects of ecological space. The water footprint (Hoekstra et al. 2011) is among a number of ideas, like the ecological footprint and carbon footprint, as well as other methods of calculating ecological loads and displacements, that have been developed to address the important point that many of the things of the extended world that we find useful are not in space contiguous with us, and their useful configuration may involve processes of development that do not map onto contiguous portions of space. As I sip my Florida orange juice, for instance, I am making use of qualitatively describable space – and water – whose proximate origin was nowhere near this glass. As I now pick up a call on my smart phone I am utilizing contributions of portions of space – each productive in their various ways – from innumerable places around the world. As I pay my bill, the credit infrastructure I call upon is a global system that has command over the space – and time – of innumerable places and people around the world. All of which, in one way or another, involve crucial inputs of water. If we are to understand how water has value in our lives, we need to be able to view it in this wider framing – not simply as a 'resource' existing in sheer space but as an integral and critical part of the complex ecology of our planet.

This perspective would appropriately inform any institutional strategies for securing a global right of water. In implementing these, it is likely, as Risse suggests, that the world could do with a global compact on water. Something it would provide guidance on is the tasks a monitoring body would discharge. On Risse's account, such a body 'would take inventories of global water resources and assess how they contribute to the overall value for human purposes of regions of the earth.' (p.197). The taking of inventories could certainly be

a useful task, I believe, but I would make two points in qualification of what Risse says here. One concerns the expectation that a monitoring body could assess the 'overall value' contribution of water resources. This, I believe, exceeds what is possible in practice or is even conceivable in principle, given that the value is dependent on all the variables of socio-economic relations and that water resources are not straightforwardly tied to regional locations. Any accounting of the value of resources in a region will be liable to contestation on multiple grounds. A more appropriate purpose in making an inventory, I would suggest, is in principle simpler. If people's basic human right to water is to be secured, there is evident value in knowing where water is short and where it is in abundance. However, in the context of mounting shortages, it is also helpful to know how water is currently being used, and by whom, in order to know whether alternative uses could relieve the shortages. For what is actually available at any given time and place also depends on which of all the possible alternative uses or conservancy measures are in operation. Hence, the second point to highlight is that an appropriate inventory of water resources would not simply focus on the territorial endowment of regions of the earth. These do not correspond in any direct or necessary way to actual patterns of resource use by communities or associations of human beings. There are potentially very many avenues of inquiry given that water permeates – literally – every aspect of our lives. The reasons that make a global inventory appropriate have also motivated the practical development of concepts like the Water Footprint. Such concepts capture something missed by focusing on territorial endowments. This is how myriad specific kinds of global mediation in the use of water must bear on any calculation of who is really appropriating and exercising exclusionary rights over shares of the global supply. As Hoekstra et al (2011) emphasize, total water consumption – and also relevant effects of water pollution – relate to what and how much communities consume and to the structure of the global economy that supplies the various consumer goods and services.

A global right of water, then, implies that access to sufficient water for healthy life should be securely enjoyed universally; securing its conditions of possibility is a shared global responsibility; that responsibility can justly be devolved into differential duties; the allocation of those duties should guided by principles of justice that reflect the imperative both to counteract radical inequality in life chances generally and to correct and disincentivise excessive use of water specifically.

In this way, a global right of water would be recognized as a distinctive but integral part of a wider set of normative standards that need institutionalization in response to the challenge of out time, namely, to constrain ecological demands while also tackling egregious inequalities.

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